

## ABSTRACT:

Soft X-rays are very suitable for the examination of biological samples by means of an X-ray microscope. It is known to generate such soft X-rays by means of a laser excited plasma in a fluid jet. According to the invention the X-rays are generated by focusing an electron beam 6 onto a fluid jet 2, thus producing a very small electron focus on the jet and hence a very small monochromatic X-ray spot 8. The electron spot 8 can be obtained by means of a standard electron microscope (a SEM) or by means of a standard electron gun for a cathode ray tube (a CRT gun). The imaging optical elements 18, 34, 40 in the X-ray microscope may be Fresnel zone plates.

10 Fig. 3